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(54) **BONDING OF COMPOSITE MATERIALS**

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See application file for complete search history.

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(57) **ABSTRACT**

Peel ply for surface preparation and a method of surface preparation prior to adhesive bonding. A resin-rich peel ply is applied onto a curable, resin-based composite substrate, followed by co-curing. After co-curing, the composite substrate is fully cured but the matrix resin in the peel ply remains partially cured. When the peel ply is removed, a roughened, bondable surface with chemically-active functional groups is revealed. The composite substrate with the chemically-active, bondable surface may be bonded to another composite substrate to form a covalently-bonded structure.

13 Claims, 8 Drawing Sheets

